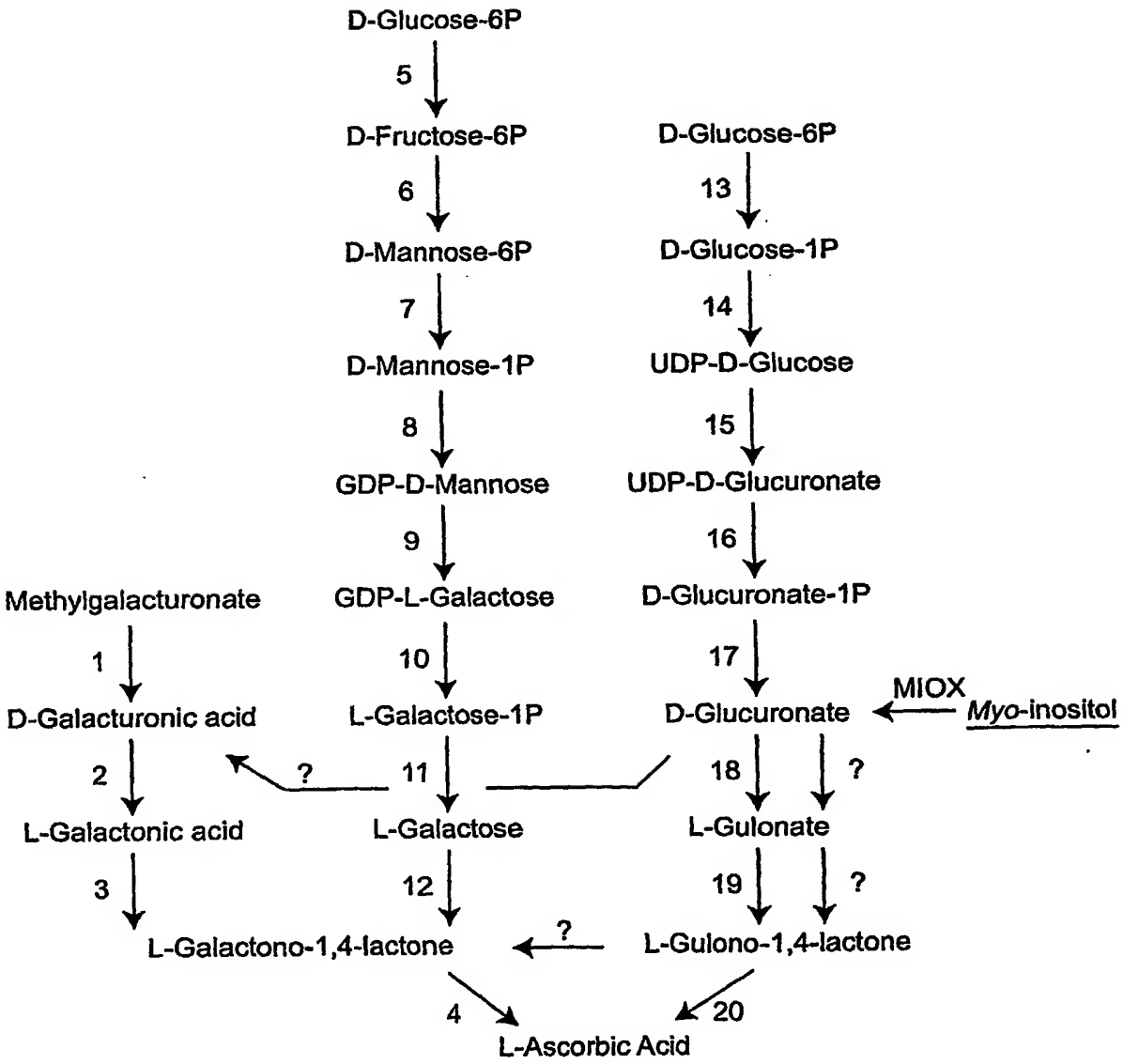

D-Glucose-6P
5
D-Fructose-6P
6
D-Mannose-6P
7
D-Mannose-1P
8
GDP-D-Mannose
9
GDP-L-Galactose
10
L-Galactose-1P
11
L-Galactose
12
L-Galactono-1,4-lactone
4
L-Ascorbic Acid
D-Glucose-6P
13
D-Glucose-1P
14
UDP-D-Glucose
15
UDP-D-Glucuronate
16
D-Glucuronate-1P
17
D-Glucuronate
MIOX
Myo-inositol
18
?
L-Gulonate
19
?
L-Gulono-1,4-lactone
20
Methylgalacturonate
1
D-Galacturonic acid
2
L-Galactonic acid
3
?
?

Figure 1

Figure 2A

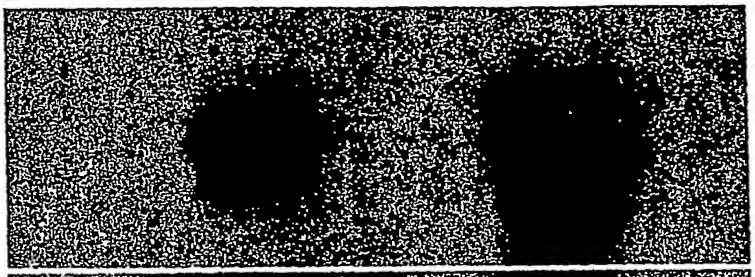


Figure 2B

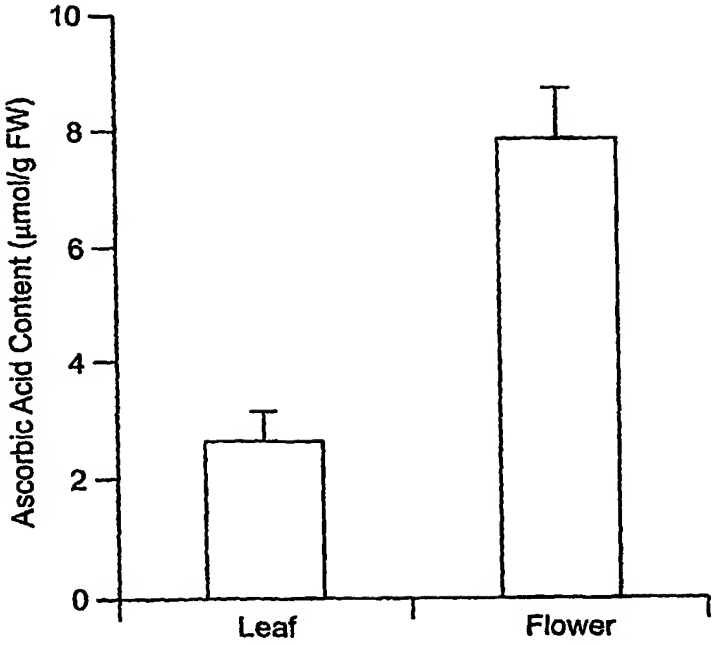
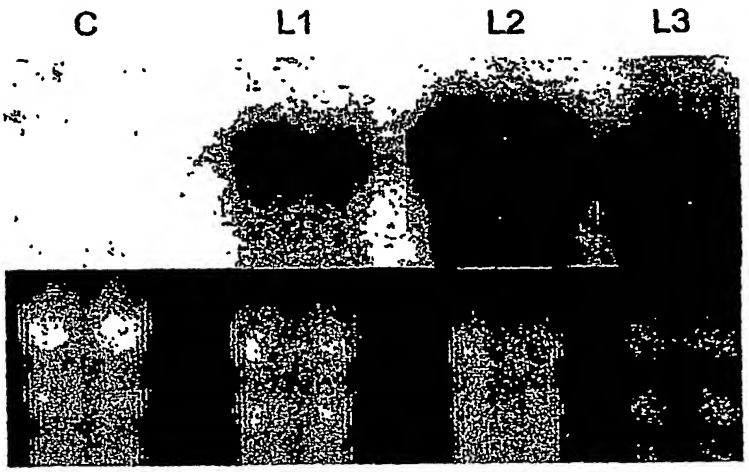


Figure 2C

Figure 3A

Figure 3B



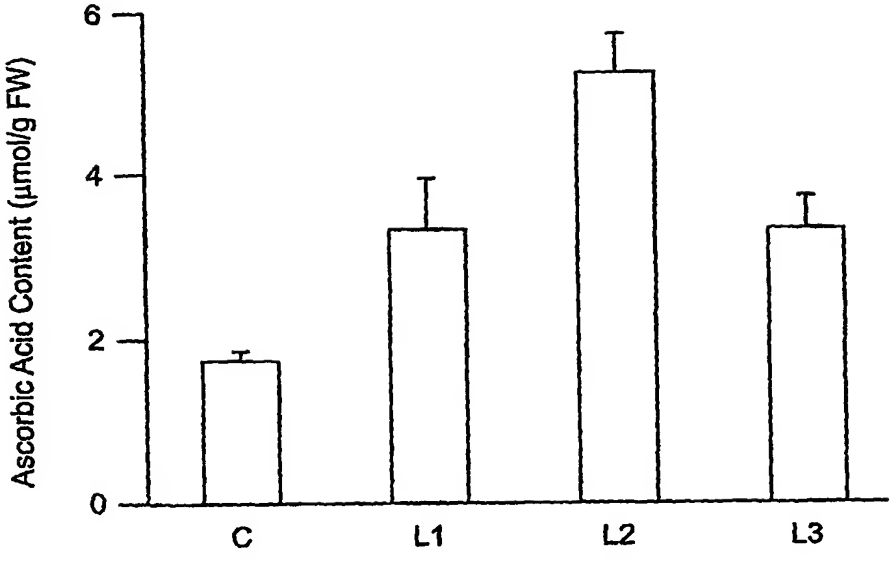


Figure 3C

SEQ ID NO:3

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 51  CGAGAAGAGT GGGGACAATA TCGGAGAGTT GAAATTGGAC GGAGGATTTT
101  CGATGCCGAA AATGGACACC AATGACGACG AAGCTTTTTT GGCTCCTGAG
151  ATGAATGCAT TTGGCCGCCA ATTCAGGGAC TACGATGTTG ACAGTGAGAG
201  GCAAAAGGGC GTCGAAGAGT TTTACAGATT ACGACACATC AACCAAACTG
251  TCGACTTTGT GAAAAAGATG AGGGCTGAAT ATGGAAAATT AGATAAAATG
301  GTGATGAGCA TTTGGGAATG TTGTGAGCTT CTCAATGAGG TTGTCGATGA
351  GAGTGATCCA GATCTTGACG AGCCCCAGAT TCAGCATTTG CTTCAATCTG
401  CCGAAGCCAT CCGCAAAGAT TACCCTAATG AAGATTGGCT TCATCTGACC
451  GCTCTTATCC ATGATCTTGG GAAAGTTATT ACTCTTCCAC AATTCGGAGG
501  ACTTCCTCAA TGGGCTGTTG TTGGTGACAC ATTCCCTGTT GGATGTGCAT
551  TTGATGAATC TAACGTACAT CACAAGTACT TTGTGGAAAA CCCAGATTTT
601  CACAACGAAA CCTACAACAC TAAAAATGGG ATTTACTCTG AAGGGTGTGG
651  ATTAAACAAT GTCATGATGT CTTGGGGCCA TGACGACTAC ATGTACCTGG
701  TGGCTAAAGA AAACGGAAGT ACCTTGCCGT CGGCTGGACA GTTTATCATA
751  AGATACCACT CCTTTTACCC TTTGCACACG GCTGGAGAAT ACACCCATCT
801  TATGAACGAG GAAGACAAGG AGAATCTGAA CTGGCTACAC GTTTTCAACA
851  AGTACGACTT GTACAGTAAG AGCAAAGTTC ACGTTGATGT GGAGAAGGTC
901  GAGCCTTACT ACATGTCTCT TATCAAGAAA TATTTCCCGG AAAACTTGAG
951  GTGG
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Figure 4

SEQ ID NO:4

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 41 NDDEAFLAPE MNAFGRQFRD YDVESERQKG VEEFYRLRHI  80
 81 NQTVDFVKKM RAEYGKLDKM VMSIWECCEL LNEVVDESDP 120
121 DLDEPQIQHL LQSAEAIRKD YPNEDWLHLT ALIHDLGKVI 160
161 TLPQFGGLPQ WAVVGDTFPV GCAFDESNVH HKYFVENPDF 200
201 HNETYNTKNG IYSEGCGLNN VMMSWGHDDY MYLVAKENGS 240
241 TLPSAGQFII RYHSFYPLHT AGEYTHLMNE EDKENLKWLH 280
281 VFNKYDLYSK SKVHVDVEKV EPYYMSLIKK YFPENLRW   318
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Figure 5